

## CLAIMS:

1           1. An object for enhancing an application, the enhanced application  
2     permitting a user to enter or retrieve at least one ordinary expression for  
3     processing and display, the object being capable of accessing a data source and  
4     comprising:

5           a query generator for (a) reading the ordinary expression, and (b)  
6     requesting information from the data source based on the ordinary expression;

7           a composer for receiving requested information from the data source in  
8     response to said query generator and transferring the requested information to  
9     the application for processing and display alongside the ordinary expression; and

10          an interface for allowing the user to adjust where the application will  
11     display the requested information.

12          2. An object according to claim 1 wherein said interface is a graphical  
13     user interface.

14          3. An object according to claim 1 wherein said object is operable by  
15     the user without using programming code extraneous to normal use of the  
16     application.

17          4. An object according to claim 1 wherein said object is properly  
18     operable by the user after entry of the ordinary expression into the application  
19     without any further prerequisite.

20          5. An object according to claim 1 wherein said interface is operable to  
21     select the ordinary expression from among other features displayed by said  
22     application and identify the ordinary feature to the query generator.

23          6. An object according to claim 5 wherein said interface is operable to  
24     select and identify the ordinary expression by permitting the user to enter

3 identifying information.

1           7. An object according to claim 5 wherein said interface is operable to  
2 select and identify the ordinary expression by permitting the user to point to the  
3 ordinary expression.

1           8. An object according to claim 5 wherein said application is a  
2 spreadsheet program, said interface being operable to select and identify a  
3 spreadsheet cell containing the ordinary expression.

1           9. An object according to claim 5 wherein said application is a word  
2 processing program, said interface being operable to select and identify a  
3 location corresponding to the ordinary expression.

1           10. An object according to claim 9 wherein said interface is operable to  
2 identify a bookmark corresponding to the ordinary expression.

1           11. An object according to claim 9 wherein said interface is operable to  
2 identify a table cell containing the ordinary expression.

1           12. An object according to claim 1 wherein said query generator is  
2 operable to fetch data over a communications network.

1           13. An object according to claim 1 wherein said query generator is opera-  
2 ble to fetch data over the Internet.

1           14. An object according to claim 1 wherein said query generator is  
2 operable to fetch data from a database that is distinct from said application.

1           15. An object according to claim 1 wherein said composer is operable to  
2 parse data obtained from said data source by said query generator.

1           16. An object according to claim 15 wherein said composer is operable  
2 to extract the requested information and discard unrequested information.

1           17. An object according to claim 16 wherein said query generator is  
2 operable to fetch data over a global communications network.

1           18. An object according to claim 17 wherein said composer is  
2 preprogrammed with information about the expected layout of a web page in  
3 order to find and extract the requested information.

1           19. An object according to claim 1 wherein said interface is operable by  
2 the user to select a plurality of data types to be fetched by said query generator.

1           20. An object according to claim 19 wherein said interface is operable by  
2 the user to specify the order in which the plurality of data types will be  
3 displayed by the application, so that the order is not determined by the data  
4 source.

1           21. An object according to claim 20 wherein said interface is operable by  
2 the user to specify that the plurality of data types will be displayed by the  
3 application following the ordinary expression in a spatial sequence with over-  
4 writing permitted.

1           22. An object according to claim 20 wherein said interface is operable by  
2 the user to specify that the plurality of data types will be displayed by the  
3 application following the ordinary expression in a spatial sequence with skipping  
4 employed to avoid overwriting.

1           23. An object according to claim 19 wherein said interface is operable by  
2 the user to specify a spatial orientation with which the plurality of data types

3 will be displayed by the application.

1 24. An object according to claim 19 wherein said interface is operable by  
2 the user to specify a plurality of spatial offsets associated with corresponding  
3 ones of the plurality of data types, the plurality of data types being displayed  
4 by the application with corresponding ones of the spatial offsets.

1 25. An object according to claim 19 wherein said application is operable  
2 to define a derived site for displaying a derived value based on data from one  
3 or more source sites displayed by said application, said composer being operable  
4 to specify that the plurality of data types will be displayed by the application  
5 following the ordinary expression in a spatial sequence that skips the derived  
6 site to avoid overwriting different types of data.

1 26. An object according to claim 19 wherein said application is operable  
2 to define a plurality of derived sites for displaying derived values based on data  
3 from a plurality of corresponding pairs of source sites displayed by said  
4 application, each of the pairs of source sites including one datum from the  
5 requested information and one datum entered by the user and displayed by the  
6 application, said composer being operable to specify that the plurality of data  
7 types will be displayed by the application following the ordinary expression in  
8 a spatial sequence that skips the plurality of derived sites to avoid overwriting  
9 different types of data.

1 27. An object according to claim 25 wherein said application is a  
2 spreadsheet program and the derived site displays the scalar product of a first  
3 and a second array of source sites displayed by said application, the first array  
4 including data from the requested information and the second array including  
5 data entered by the user and displayed by the application.

1 28. An object according to claim 19 wherein said requested information

is securities information, said data source being a global communications network.

29. An object according to claim 19 wherein said requested information is formatted by said composer before display by said application, said composer being operable to transfer headings corresponding to said data types to said application for display.

30. An object according to claim 29 wherein said interface is operable by the user to adjust formatting by said composer.

31. An object according to claim 29 wherein said interface is operable by the user to disable headings generation by said composer.

32. An object according to claim 20 wherein said interface is operable to save and retrieve selections made by the user affecting future operation of said composer.

33. An object according to claim 32 wherein said interface is operable upon a request by the user to automatically undo previous selections made by the user affecting future operation of said composer.

34. An object according to claim 19 wherein said object is operable in an undo mode to restore the requested information displayed by the application to a state existing prior to the last transferral by said composer of the requested information to the application.

35. An object according to claim 35 wherein said application has a toolbar, said object placing an item in said toolbar for initiating said undo mode.

36. An object according to claim 19 wherein said object is operable in

a refresh mode to update the requested information displayed by the application by repeating operation of said query generator and said composer in order to display relevant changes in said data source.

37. An object according to claim 36 wherein said application has a toolbar, said object placing an item in said toolbar for initiating said update mode without displaying said interface.

38. An object according to claim 1 wherein said application has a toolbar, said object placing an item in said toolbar for calling said interface.

39. An object according to claim 1 wherein said application has a menu, said object placing an item in said menu for calling said interface.

40. An object according to claim 1 wherein said application has a toolbar, said object placing an item in said toolbar for linking to a web site concerning the ordinary expression.

41. A method for enhancing an application, the enhanced application permits a user to enter or retrieve at least one ordinary expression for processing and display, the method being performed with a data source and comprising the steps of:

- electronically reading the ordinary expression;
- requesting information from the data source based on the ordinary expression;
- receiving requested information from the data source;
- automatically transferring the requested information to the application for processing and display alongside the ordinary expression; and
- allowing the user to specify in advance of a request where the application will display the requested information.

1           42. A method according to claim 41 wherein the method is performed  
2 without the user using programming code extraneous to normal use of the  
3 application.

1           43. A method according to claim 41 wherein the method is performed  
2 after the user enters the ordinary expression into the application without any  
3 further prerequisite.

1           44. A method according to claim 41 wherein the step of electronically  
2 reading the ordinary expression is automatically performed after the user  
3 manually selects the ordinary expression from among other features displayed  
4 by said application.

1           45. A method according to claim 44 wherein the manual selection of the  
2 ordinary expression being performed by the user enter identifying information.

1           46. A method according to claim 44 wherein the manual selection of the  
2 ordinary expression being performed by the user pointing to the ordinary  
3 expression.

1           47. A method according to claim 44 wherein said application is a  
2 spreadsheet program, the manual selection of the ordinary expression being  
3 performed by the user selecting and identifying a spreadsheet cell containing the  
4 ordinary expression.

1           48. A method according to claim 44 wherein said application is a word  
2 processing program, the manual selection of the ordinary expression being  
3 performed by the user selecting and identifying a location corresponding to the  
4 ordinary expression.

1           49. A method according to claim 48 wherein the manual selection of the

2 ordinary expression is performed by the user identifying a bookmark  
3 corresponding to the ordinary expression.

1 50. A method according to claim 48 wherein the manual selection of the  
2 ordinary expression is performed by the user identifying a table cell containing  
3 the ordinary expression.

1 51. A method according to claim 41 wherein the step of requesting  
2 information is performed over a communications network.

1 52. A method according to claim 41 wherein the step of requesting  
2 information is performed over the Internet.

1 53. A method according to claim 41 wherein the step of receiving  
2 requested information is performed by fetching data from a database that is  
3 distinct from said application.

1 54. A method according to claim 41 wherein the step of automatically  
2 transferring the requested data to the application includes the step of:  
3 parsing data obtained from said data source.

1 55. A method according to claim 54 wherein the step of automatically  
2 transferring the requested data to the application includes the step of:  
3 extracting the requested information and discarding unrequested  
4 information.

1 56. A method according to claim 55 wherein the step of requesting  
2 information is performed over a global communications network.

1 57. A method according to claim 56 including the step of:  
2 recording in advance, information about an expected layout of a web



page, the step of extracting the requested information being performed by taking information from predetermined locations identified by the expected layout.

58. A method according to claim 41 wherein the step of requesting information is performed by selecting a plurality of data types to be fetched in the step of automatically transferring the requested information.

59. A method according to claim 58 wherein the step of specifying in advance is performed by the user specifying the order in which the plurality of data types will be displayed by the application, so that the order is not determined by the data source.

60. A method according to claim 59 wherein the step of specifying in advance is performed by the user specifying that the plurality of data types will be displayed by the application following the ordinary expression in a spatial sequence with overwriting permitted.

61. A method according to claim 59 wherein the step of specifying in advance is performed by the user specifying that the plurality of data types will be displayed by the application following the ordinary expression in a spatial sequence with skipping employed to avoid overwriting.

62. A method according to claim 58 wherein the step of specifying in advance is performed by the user specifying a spatial orientation with which the plurality of data types will be displayed by the application.

63. A method according to claim 58 wherein the step of specifying in advance is performed by the user specifying a plurality of spatial offsets associated with corresponding ones of the plurality of data types, the plurality of data types being displayed by the application with corresponding ones of the

5 spatial offsets.

1 64. A method according to claim 58 wherein said application is operable  
2 to define a derived site for displaying a derived value based on data from one  
3 or more source sites displayed by said application, the step of specifying in  
4 advance being performed by specifying that the plurality of data types will be  
5 displayed by the application following the ordinary expression in a spatial  
6 sequence that skips the derived site to avoid overwriting different types of data.

1 65. A method according to claim 58 wherein said application is operable  
2 to define a plurality of derived sites for displaying derived values based on data  
3 from a plurality of corresponding pairs of source sites displayed by said  
4 application, each of the pairs of source sites including one datum from the  
5 requested information and one datum entered by the user and displayed by the  
6 application, the step of specifying in advance being performed by specifying  
7 that the plurality of data types will be displayed by the application following the  
8 ordinary expression in a spatial sequence that skips the plurality of derived sites  
9 to avoid overwriting different types of data.

1 66. A method according to claim 64 wherein said application is a  
2 spreadsheet program and the derived site displays the scalar product of a first  
3 and a second array of source sites displayed by said application, the first array  
4 including data from the requested information and the second array including  
5 data entered by the user and displayed by the application.

1 67. A method according to claim 58 wherein said requested information  
2 is securities information, said data source being a global communications  
3 network.

1 68. A method according to claim 58 comprising the steps of:  
2 formatting said requested information before display by said application;

3 and  
4 transferring headings corresponding to said data types to said application  
5 for display.

1 69. A method according to claim 68 wherein the step of formatting said  
2 requested data being performed by the user adjusting formatting.

1 70. A method according to claim 68 wherein the step of transferring  
2 heading is performed by the user either enabling or disabling headings.

1 71. A method according to claim 59 comprising the steps of recording  
2 and retrieving selections made by the user during the step of allowing the user  
3 to specify in advance.

1 72. A method according to claim 71 comprising the step of:  
2 upon a request by the user automatically undoing previous selections  
3 made by the user during the step of allowing the user to specify in advance.

1 73. A method according to claim 58 comprising the step of:  
2 conducting an undo mode to restore the requested information displayed  
3 by the application to a state existing prior to the last performance of the step  
4 of automatically transferring the requested information to the application.

1 74. A method according to claim 58 comprising the step of:  
2 conducting a refresh mode to update the requested information displayed  
3 by the application by repeating at least the steps of requesting information and  
4 receiving and automatically transferring the requested information in order to  
5 display relevant changes in said data source.

1 75. A method according to claim 41 wherein said application has a  
2 menu, said method being initiated by selecting an item in said menu.

- 1 76. A method according to claim 41 comprising the step of:
- 2 linking to a web site concerning the ordinary expression.